

Applicant: Kaisa Putkisto et al.  
Application No.: 10/507,417  
Response to examiner's telephone communication of Sep. 5, 2006  
Response filed Sep. 5, 2006

### Claim Listing

1-4. (cancelled)

5. (currently amended) A method for coating a paper or board web in a dry surface treatment process, wherein motion of the paper or board web defines an upstream and a downstream direction, comprising the steps of:

pre-charging particles of a dry powder within a charging unit by causing the dry powder to move between an electrode producing corona charging within the unit and an electrode at a lower or opposite potential within the charging unit to form pre-charged particles;

supplying the pre-charged particles from the charging unit to a feeding nozzle which forms an electrode and blowing the pre-charged particles from the feeding nozzle toward the paper or board web, the feeding nozzle being positioned between an upstream electrode producing a corona discharge, the upstream electrode positioned outside of the charging unit and laterally spaced ~~from and~~ in the upstream direction from [[of]] the feeding nozzle, and a downstream electrode producing a corona discharge, the downstream electrode positioned outside of the charging unit and laterally spaced ~~from and~~ in the downstream direction from [[of]] the feeding nozzle, wherein the feeding nozzle is spaced further from the paper or board web than the upstream electrode and the downstream electrode;

wherein the paper or board web is backed by a grounding electrode at a potential which is lower than or opposite to the potentials of the feeding nozzle, the upstream electrode and the downstream electrode.

6. (previously presented) The method of claim 5 wherein the grounding electrode is a rotatable roll.

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7. (previously presented) The method of claim 5 wherein the grounding electrode is a stationary platy electrode.

8. (currently amended) A method for coating a paper or board web in a dry surface treatment process, wherein motion of the paper or board web defines an upstream and a downstream direction, comprising the steps of:

pre-charging particles of a dry powder by causing the dry powder to move along the walls of a transfer pipe to charge the particles by triboelectric charging;  
supplying the pre-charged particles to a feeding nozzle forming an electrode and blowing the pre-charged particles from the feeding nozzle toward the paper or board web, the feeding nozzle being positioned between an upstream electrode producing a corona discharge, the upstream electrode positioned laterally spaced ~~from and in the~~ direction from ~~[[of]]~~ the feeding nozzle, and a downstream electrode producing a corona discharge, the downstream electrode positioned laterally spaced ~~from and in the~~ direction from ~~[[of]]~~ the feeding nozzle, wherein the feeding nozzle is spaced further from the paper or board web than the upstream electrode and the downstream electrode;

wherein the paper or board web is backed by a grounding electrode at a potential which is lower than or opposite to the potentials of the feeding nozzle, the upstream electrode, and the downstream electrode.

9. (previously presented) The method of claim 8 wherein the grounding electrode is a rotatable roll.

10. (previously presented) The method of claim 8 wherein the grounding electrode is a stationary platy electrode.

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11. (currently amended) A method for coating a moving web using a dry surface treatment process wherein the movement of the ~~paper~~ web defines an upstream direction and a downstream direction, comprising the steps of:

pre-charging particles of a dry powder within a charging unit by causing the dry powder to move between an electrode producing corona charging within the unit and an electrode at a lower or opposite potential within the charging unit to form pre-charged particles;

coating the web with a coating layer by supplying the pre-charged particles from the charging unit to a feeding nozzle which forms an electrode and blowing the pre-charged particles from the feeding nozzle toward the web, the feeding nozzle being positioned between an upstream electrode producing a corona discharge, the upstream electrode positioned outside of the charging unit and laterally spaced ~~from and~~ in the upstream direction from ~~[[of]]~~ the feeding nozzle and a downstream electrode producing a corona discharge, the downstream electrode positioned outside of the charging unit and laterally spaced ~~from and~~ in the downstream direction from ~~[[of]]~~ the feeding nozzle, wherein the feeding nozzle is spaced further from the web than the upstream electrode and the downstream electrode; and

wherein the web is backed by a grounding electrode at a potential which is lower than or opposite to the potentials of the feeding nozzle, the upstream and the downstream electrodes.

12. (previously presented) The method of claim 11 wherein the grounding electrode is a rotatable roll.

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13. (previously presented) The method of claim 11 wherein the grounding electrode is a stationary platy electrode.

14. (currently amended) A method for coating a moving web using a dry surface treatment process wherein the movement of the paper or board web defines an upstream direction and a downstream direction, comprising the steps of:

pre-charging particles of a dry powder by causing the dry powder to move along the walls of a transfer pipe to charge the particles by triboelectric charging;  
supplying the pre-charged particles to a feeding nozzle forming an electrode and blowing the pre-charged particles from the feeding nozzle toward the web, the feeding nozzle being positioned between an upstream electrode producing a corona discharge, the upstream electrode positioned laterally spaced ~~from and~~ in the upstream direction from [[of]] the feeding nozzle, and a downstream electrode producing a corona discharge, the downstream electrode positioned laterally spaced ~~from and~~ in the downstream direction from [[of]] the feeding nozzle, wherein the feeding nozzle is spaced further from the paper or board web than the upstream electrode and the downstream electrode;  
wherein the paper or board web is backed by a grounding electrode at a potential which is lower than or opposite to the potentials of the feeding nozzle, the upstream electrode, and the downstream electrode.

15. (previously presented) The method of claim 14 wherein the grounding electrode is a rotatable roll.

16. (previously presented) The method of claim 14 wherein the grounding electrode is a stationary platy electrode.